

CLAIMS

1. A method of producing aluminum alloy sheets excelling in bake-hardenability and hemmability, comprising steps of casting, by means of a twin-belt casting method, an alloy melt comprising 0.30-1.00 wt% of Mg, 0.30-1.20 wt% of Si, 0.05-0.50 wt% of Fe, 0.05-0.50 wt% of Mn and 0.005-0.10 wt% of Ti, optionally further comprising at least one of 0.05-0.70 wt% of Cu or 0.05-0.40 wt% of Zr, the remainder consisting of Al and unavoidable impurities, to form a 5-15 mm thick slab at a cooling rate of 40-150 °C/s at a quarter-thickness of the slab; winding into a coil; subjecting to a homogenization treatment; cooling to 250 °C or less at a cooling rate of at least 500 °C/h; cold rolling; then subjecting to a solution treatment.
2. A method in accordance with claim 1, wherein said homogenization treatment involves heating to 520-580 °C at a heating rate of at least 30 °C/h in a batch furnace, then holding at that temperature for 2-24 hours.
3. A method in accordance with either claim 1 or 2, wherein said solution treatment involves heating to 530-560 °C at a heating rate of at least 10 °C/s in a continuous annealing line, and holding for 30 seconds or less.
4. A method in accordance with claim 3, comprising steps, after said solution treatment, of cooling to room temperature at a cooling rate of at least 10 °C/s, then subjecting to a restoration treatment by holding for 30 seconds or less at 260-300 °C in a continuous annealing furnace, and cooling to room temperature at a cooling rate of at least 10 °C/s.
5. A method in accordance with claim 3, comprising steps, after said solution treatment, of water-cooling to 250 °C or less at a cooling rate of at least 10 °C/s, then air-cooling to 60-100 °C at a cooling rate of 1-20 °C/s, coiling up, and subjecting to a

preliminary ageing treatment by cooling to room temperature.

6. A method in accordance with claim 3, comprising steps, after said solution treatment, of cooling to room temperature at a cooling rate of at least 10 °C/s, then subjecting to a restoration treatment by holding for 30 seconds or less at 260-300 °C in a continuous annealing furnace, cooling to 60-100 °C at a cooling rate of at least 1 °C/s, coiling up, and subjecting to a preliminary ageing treatment by cooling to room temperature.